

What is claimed is:

1. A method for adapting an actuation distance model for an actuator for an exhaust turbocharger in an internal combustion engine, comprising:

identifying a stationary and quasi-stationary operating state of the internal combustion engine;

activating a first actuator for the exhaust turbocharger in an exhaust tract and a second actuator in an intake tract so that the internal combustion engine remains in an operating state;

determining a target value for a state variable at a turbine and subsequent comparison of the target value and measured actual value of the state variable at the turbine, wherein a correction value is identified for the actuation distance model and activation of the first actuator from the difference between the actual value and target values for the state variable.

2. The method according to claim 1, wherein the internal combustion machine remains in the operating state with or without constant operating points for combustion.

3. The method according to claim 1, wherein at least one actuator unit for a waste gate position, a turbine blade angle, a position of a sliding sleeve on the exhaust turbocharger and/or electric actuators with and without position feedback and/or bellows at over- or under-pressure are provided as the first actuator in the exhaust tract.

4. The method according to claim 1, wherein at least one actuator unit for a throttle valve, a return check system or return valve are provided as the second actuator in the intake tract.

5. The method according to claim 1, wherein the static or quasi-static operating state is identified based on the values for engine speed, fill level, content composition during internal exhaust gas recirculation, quantity injected, ignition angle, engine torque and valve gear mechanism.
6. The method according to claim 1, wherein activation of the first actuator is staged, with an extent of the stage and the interval between stages being selected so that the change in the state variables at the turbine or at the compressor of the exhaust turbocharger can be detected at each stage.
7. The method according to claim 1, wherein the second actuator is activated after a delay period.
8. The method according to claim 1, wherein identification of static or quasi-static operating states takes place during unboosted operation.
9. The method according to claim 1, wherein activation of the first actuator takes place in an operating state, in which a change in the exhaust gas back-pressure results in slight modification of the operating state of the internal combustion engine.
10. The method according to claim 1, wherein the state variables of the turbine or at the compressor of the exhaust turbocharger are determined on the basis of a measurement.
11. The method according to claim 1, wherein the state variables at the turbine or the compressor are determined from measured and model values for the exhaust tract or the intake tract.
12. The method according to claim 10, wherein turbine power or compressor power is provided as the state variable at the turbine or the compressor.

13. The method according to claim 1, wherein the operating point of the internal combustion engine the first and second actuators are activated such that the effective torque and engine speed are constant.

14. The method according to claim 11, wherein turbine power or compressor power is provided as the state variable at the turbine or the compressor.